

Carnegie Tech Donner Hall Dormitory

PITTSBURGH, PENNSYLVANIA

OWNER: Carnegie Institute of Technology • Pittsburgh, Pa.

ARCHITECT: Mitchell & Ritchey • Pittsburgh, Pa.

GENERAL CONTRACTOR: George H. Chilli • Homestead, Pa.

SUBCONTRACTORS-Aluminum: Overly Manufacturing Co. • Greensburg, Pa.
The William Bayley Co. • Springfield, Ohio



architectural achievements

A.I.A. FILE NO. 17-A-1955
CARNEGIE TECH DORMITORY
wall system





Alcoa Aluminum for A LOW COST COLLEGE DORM

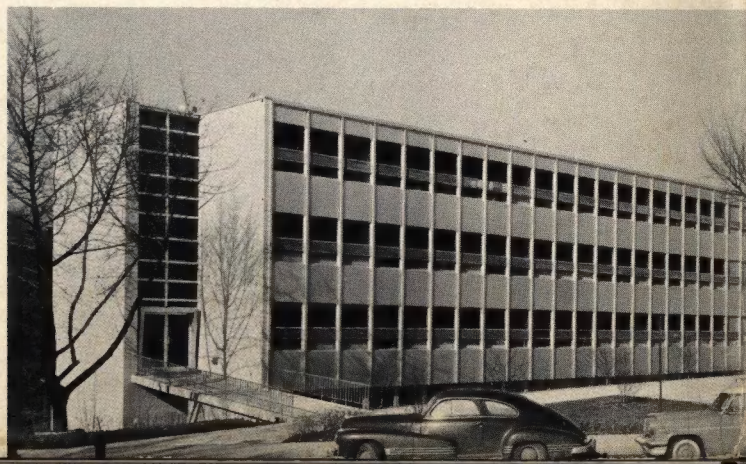
The newest addition to Carnegie Tech's campus—the Donner Hall Dormitory for men—is setting an attractive new pattern for low cost school wall construction. Its aluminum clad walls were about 25% to 30% less in cost than most typical metal walls and lower, too, than many masonry walls would have been. In spite of a limited building budget, architects Mitchell and Ritchey have achieved an outstanding contemporary appearance as well as a structure that serves the living and recreational needs of its students.

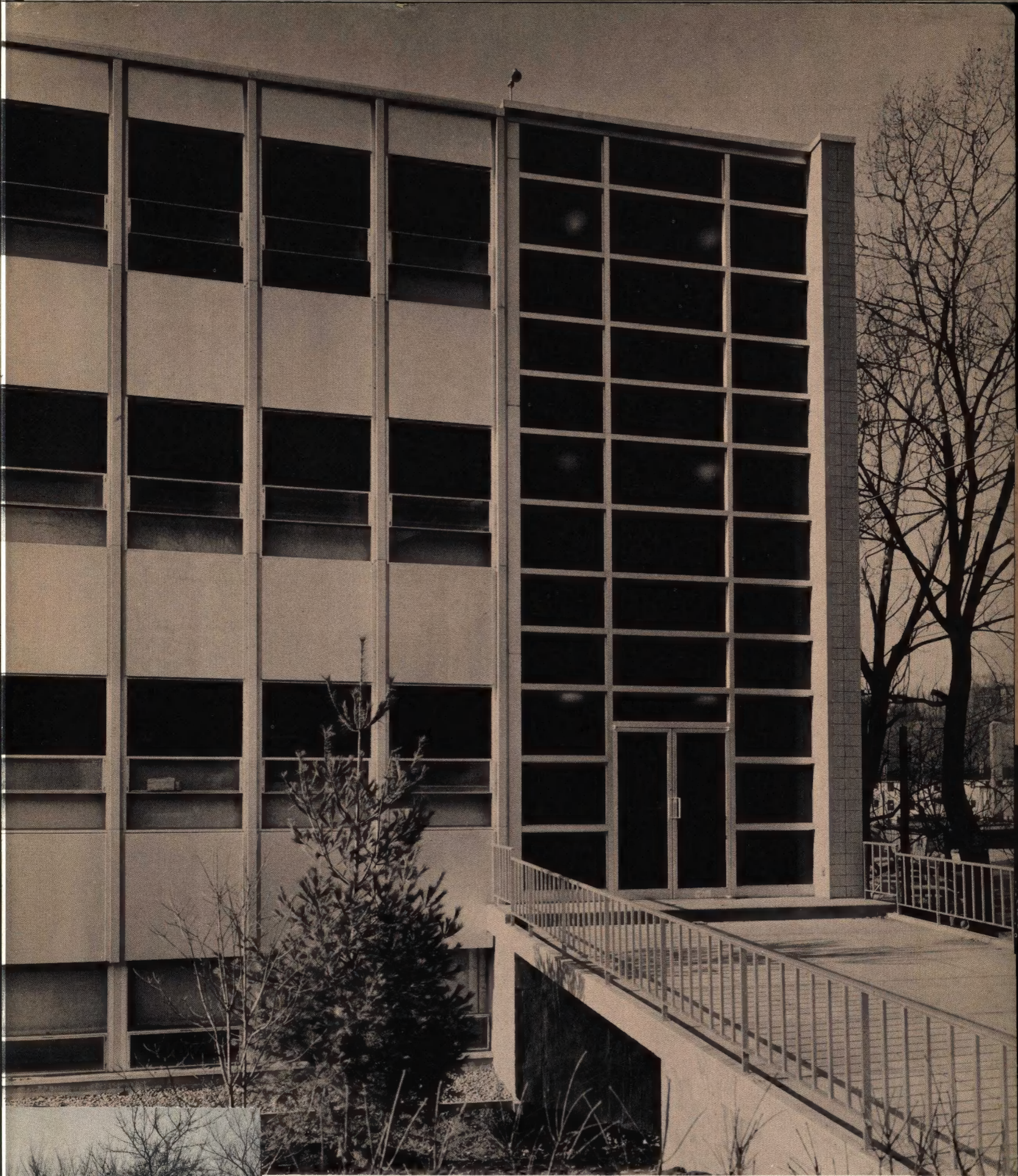
The wall consists of preformed sheet panels and mullions of Alcoa Aluminum, plus cinder block backup. Extruded aluminum frames and glare-reducing glass comprise the windows and window wall areas. The system was successful in utilizing a few, simple shapes which were economical to produce, yet assured adequate expansion and contraction, and were self-flashing.

The faces of all sheet panels are perfectly flat and require no reinforcing ribs. Formed edges serve as a rigid frame. Controlled fabricating techniques used by Overly Manufacturing Company, avoided "pillowing" at the welded corners and assured high-quality, distortion-free panels. These were applied from board scaffolds on the outside of each floor. Panel attachment was easy and the entire installation was completed by two men in three weeks—an important factor in contributing to lower costs.

Subtle color relationships play an important part in the aesthetic effectiveness of the dormitory wall design. Each panel has a chemically etched, frost-white surface (specified as R1 finish), which contrasts handsomely with the Alcoa Architectural Gray 2010† finish given to mullions, trim, cover cap and window walls. Both aluminum shades in turn blend well with green, ceramic tile end walls and blue-green window glass.

The minimum maintenance advantages of Alcoa Aluminum were also a consideration in its selection for the various wall components, copings, handrailings, exterior doors and window sills. Years of weathering will not materially weaken the metal, and no special care will be required to keep it looking good.





†Alcoa Architectural Gray 2010 (natural aluminum color) is one of a number of protective-decorative, integral surface finishes for exterior aluminum. It is available on Alcoa Anoclad* Sheet Type 10 (Donner Hall mullions), or on Alcoa Anoclad Extrusions Type 10 (Donner Hall window wall framing).

Alcoa Anoclad Sheet and Extrusions are made from carefully controlled alloys specially processed for Aluminum Company of America's new exterior architectural color finishes.

*Trademark of Aluminum Company of America

partial list of buildings with WALL SYSTEMS OF ALCOA ALUMINUM

(completed since 1948)

California

Alcoa Sales Office, Los Angeles
Arch.—*Claud Beelman, Los Angeles, Cal.*

Connecticut

Statler Hotel, Hartford
Arch.—*Wm. B. Tabler, New York, N. Y.*

District of Columbia

Wyatt Building, Washington
Arch.—*A. R. Clas, Washington, D. C.*

Illinois

Prudential Insurance Company, Chicago
Arch.—*Naess & Murphy, Chicago, Ill.*

Iowa

Alcoa Davenport Works, Davenport
Arch.—*Harrison and Abramovitz, New York, N. Y.*

Louisiana

Texas Company Office Building, New Orleans
Arch.—*Claude E. Hooton, New Orleans, La.*

Minnesota

Mayo Diagnostic Clinic, Rochester
Arch.—*Ellerbe and Company, St. Paul, Minn.*
University of Minnesota Chemical Engineering Bldg.,
Minneapolis
Arch.—*Magney, Tusler and Setter, Minneapolis, Minn.*

Missouri

Missouri St. Office Building, Jefferson City
Arch.—*Marcel Boulicault, St. Louis, Missouri*
Commercial Building, St. Louis
Arch.—*Marcel Boulicault, St. Louis, Missouri*

New York

261 Madison Avenue, New York
Arch.—*Sylvan Bien, New York, N. Y.*
U. N. Secretariat, New York
Arch.—*Harrison and Abramovitz, New York, N. Y.*
60th and Madison Avenue, New York
Arch.—*Sylvan Bien, New York, N. Y.*
260 Madison Avenue, New York
Arch.—*Sylvan Bien, New York, N. Y.*
100 Park Avenue, New York
Arch.—*Kahn and Jacobs, New York, N. Y.*
99 Park Avenue, New York
Arch.—*Emery, Roth and Sons, New York, N. Y.*
460 Park Avenue, New York
Arch.—*Emery, Roth & Sons, New York, N. Y.*

Ohio

Fairview Park Hospital, Cleveland
Arch.—*Garfield, Harris, Robinson and Shafer, Cleveland, Ohio*
Alcoa Sales Office, Cincinnati
Arch.—*Paul Schell, Pittsburgh, Pa.*

Oregon

Equitable Building, Portland
Arch.—*Pietro Belluschi, Cambridge, Massachusetts*

Pennsylvania

York Corporation Research Laboratory, York
Arch.—*Buchart Engineering Corporation, York, Pa.*
Carnegie Tech Men's Dorm, Pittsburgh
Arch.—*Mitchell and Ritchey, Pittsburgh, Pa.*
Carlisle Chemical Works, Carlisle
Arch.—*Cyrus L. Baxter, Cincinnati, Ohio*
Robertshaw Research Center, Irwin
Arch.—*Franklin, Douden and Assocs., Pittsburgh, Pa.*
Fort Couch School, Pittsburgh
Arch.—*Button and McLean; W. C. Young, Pittsburgh, Pa.*
Bradford Hospital, Bradford
Arch.—*Thomas K. Kendryx, Bradford, Pa.*
Wyeth Building, Radnor
Arch.—*Skidmore, Owings and Merrill, New York, N. Y.*

Texas

Republic National Bank, Dallas
Arch.—*Harrison and Abramovitz, New York, N. Y.*
Corrigan Building, Dallas
Arch.—*Wyatt C. Hendricks, Dallas, Texas*

Canada


Laurentian Hotel, Montreal
Arch.—*D. Davis Goodman*

ALCOA SALES OFFICES

ABERDEEN, S. D.	304 Western Union Building
AKRON 8, OHIO	506 Akron Savings & Loan Building
ALBANY 7, N. Y.	90 State Street
ALLENTOWN, PA.	1132 Hamilton Street
ATLANTA 3, GA.	1800 Rhodes-Haverty Building
BALTIMORE 1, MD.	401 Baltimore Life Building
BIRMINGHAM 3, ALA.	720 North 19th Street
BOSTON 16, MASS.	20 Providence Street, Park Square
BRIDGEPORT 4, CONN.	Atlantic Street
BUFFALO 7, N. Y.	1880 Elmwood Avenue
CHARLOTTE 2, N. C.	616 Johnston Building
CHATTANOOGA 1, TENN.	1205 Volunteer Building
CHICAGO 11, ILL.	520 North Michigan Avenue
CINCINNATI 6, OHIO	2331 Victory Parkway
CLEVELAND 13, OHIO	1450 Terminal Tower
COLUMBUS 15, OHIO	40 South Third Street Building
DALLAS 2, TEXAS	301 Thomas Building
DAVENPORT, IOWA	503 Kahl Building
DAYTON 5, OHIO	207 Northtown Arcade
DENVER 18, COLO.	P.O. Box 3107
DETROIT 2, MICH.	610 New Center Building
EVANSVILLE 10, IND.	207 Kinkel Building
FORT WAYNE, IND.	930 Lincoln Bank Tower
GRAND RAPIDS 2, MICH.	812 Michigan National Bank Building
HARTFORD 3, CONN.	Capitol Building, 410 Asylum Street
HOUSTON 2, TEXAS	1804 Commerce Building
INDIANAPOLIS 8, IND.	2939 North Meridian Street
JACKSON, MICH.	1405 National Bank Building
KANSAS CITY 5, MO.	2300 Power & Light Building
LOS ANGELES 17, CALIF.	1145 Wilshire Boulevard
LOUISVILLE 2, KY.	1154 Starks Building
MEMPHIS 3, TENN.	2809 Sterick Building
MIAMI 32, FLA.	1605 Alfred I. du Pont Building
MILWAUKEE 2, WIS.	735 North Water Street
MINNEAPOLIS 2, MINN.	1060 Northwestern Bank Building
NEWARK 2, N. J.	744 Broad Street
NEW ORLEANS 12, LA.	627 Whitney Building
NEW YORK 17, N. Y.	230 Park Avenue
OKLAHOMA CITY 2, OKLA.	111 N.W. 23rd Street
OMAHA 2, NEB.	716 Omaha National Bank Building
PEORIA 1, ILL.	725 Commercial Bank Building
PHILADELPHIA 9, PA.	123 South Broad Street
PITTSBURGH 19, PA.	1501 Alcoa Building
PONTIAC 15, MICH.	301 Pontiac State Bank Building
PORTLAND 4, ORE.	1115 U. S. National Bank Building
PROVIDENCE 3, R. I.	815 Industrial Trust Building
RICHMOND 19, VA.	712 Southern States Building
ROCHESTER 4, N. Y.	1331 Lincoln Alliance Bank Building
ST. LOUIS 8, MO.	10th Floor, Continental Building
SAN FRANCISCO 4, CALIF.	615 Russ Building
SEATTLE 1, WASH.	1411 Fourth Avenue Building
SOUTH BEND 1, IND.	805 J.M.S. Building
SPRINGFIELD 3, MASS.	232 Tarbell-Walters Building
SYRACUSE 2, N. Y.	1018 State Tower Building
TAMPA 2, FLA.	227 First National Building
TOLEDO 4, OHIO	1801 Ohio Building
WASHINGTON 6, D. C.	1200 Ring Building
WICHITA 2, KAN.	1011 Central Building
WILMINGTON 1, DEL.	301 Delaware Trust Building
WORCESTER 8, MASS.	22 Pleasant Street
YORK, PA.	205 Manufacturers Building
YOUNGSTOWN, OHIO	537 Ohio Edison Building

EXPORT DIVISION.....230 Park Avenue, New York 17, N. Y.

ALCOA



ALUMINUM

ALUMINUM COMPANY OF AMERICA
1894 Alcoa Building • Mellon Square
Pittsburgh 19, Pa.

architectural achievements

ALCOA SERIES 100-14

ALUMINUM WORK—DONNER HALL DORMITORY CARNEGIE INSTITUTE OF TECHNOLOGY PITTSBURGH, PENNSYLVANIA

ARCHITECT.....MITCHELL & RITCHEY
GENERAL CONTRACTOR.....GEORGE H. CHILLI
SUBCONTRACTORS—Aluminum panel...OVERLY MANUFACTURING COMPANY
—Aluminum windows.....THE WILLIAM BAYLEY COMPANY

Suggested Outline Specifications

To facilitate bidding and accurate quoting it is recommended that the aluminum components, including anchorage and accessories, be treated under a separate specification division and not combined with miscellaneous metalwork or any other division of work.

1. GENERAL CONDITIONS

- A. The General Conditions of the contract for the construction of buildings, standard form of the American Institute of Architects and the supplementary General Conditions are part of this contract.

2. SCOPE

- A. Furnish labor, material and other services to complete the fabrication and installation of aluminum wall and accessory system as indicated on the drawings. Erection shall be performed by the manufacturer or his authorized erector.

3. MATERIALS—Aluminum materials shall be composed of Alcoa Aluminum alloys.

- A. Preformed wall panel and wall soffits—3003 alloy sheet.
B. Projected mullions, trim and cover cap—Alcoa Anoclad* Sheet Type 10.
C. Coping assembly: Coping, joint cover and gutter bar—3003 alloy sheet.
D. Window walls—Alcoa Anoclad* Extrusions Type 10.
E. Windows—6063 alloy extruded shapes.
F. Fasteners: Screws—2024 alloy aluminum or stainless steel; Nails—2024 alloy aluminum.

4. FINISH

- A. Wall panels and soffits, coping and joint covers, windows,—R1 (caustic etch).
B. Window walls, projected mullions, trim and cover caps—Alcoa Architectural Gray 2010.

5. TEMPORARY PROTECTION

- A. Panels, soffits, coping, joint covers and windows shall be protected against stain during construction by two coats of an approved water-white methacrylate type lacquer having a total minimum thickness of .0006" total for two coats.†

6. ERECTION

- A. Wall panels and projected mullions shall be accurately located to line and elevation and shall be plumb and free of any distortion.

*Trademark of Aluminum Company of America.

†Architect note: Components specified in Alcoa Architectural Gray, or any other architectural color, include the proper lacquer protection as a standard part of their finish.

ALCOA

ALUMINUM
ALUMINUM COMPANY OF AMERICA

100-14

1 OF 1

MAY 1955

PRINTED IN U.S.A.

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0.064" SHEET ALUMINUM
COPING & JOINT COVER

ALUMINUM FASTENERS

ALUMINUM GUTTER BAR

GALVANIZED ANCHOR BOLT

0.091" SHEET
ALUMINUM TRIM
& COVER CAP

FURRING

STEEL SHIM

0.091" SHEET
ALUMINUM
PROJECTED MULLION

0.125" SHEET
ALUMINUM PANEL

SECTION (B)

ALUMINUM FLASHING

STEEL SHIM
FURRING

WEEP HOLE -
2 PER PANEL

FIXED ALUMINUM
WINDOW

SECTION (C)

TELESCOPIC
EXPANSION JOINT

CALKING

FURRING
STEEL SHIM
0.125" SHEET
ALUMINUM PANEL

SECTION (D)

WATER PROOFING

0.091" SHEET
ALUMINUM
PROJECTED MULLION

ALUMINUM FLASHING

STEEL SHIM
FURRING

END CLOSED &
RECESSED

WEEP HOLE -
2 PER PANEL

0.125" SHEET ALUMINUM WALL SOFFIT

SECTION AT BOTTOM PANEL

SCALE 3"=1'-0"

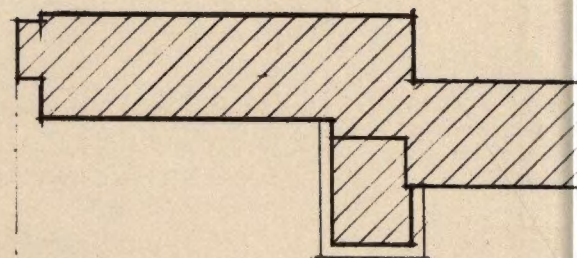
VERTICAL WALL DETAILS

COMPLETED
JANUARY 1955

PROJECT

ARCHITECT
CONTRACTOR
SUBCONTRACTORS

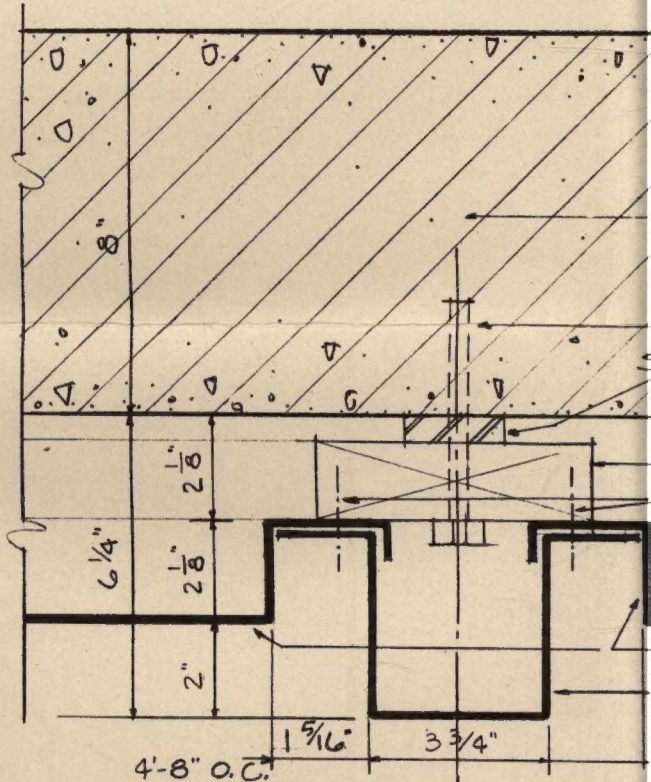
DONNER HALL DORMITORY
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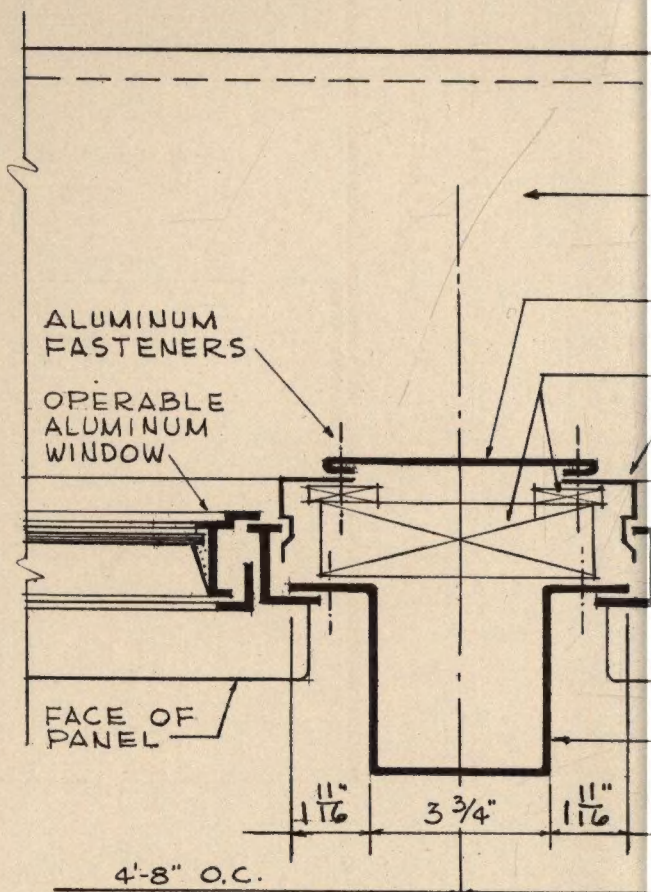
VIEW FOR ELEVATION

PLAN

SCALE 1/8"=10'-0"



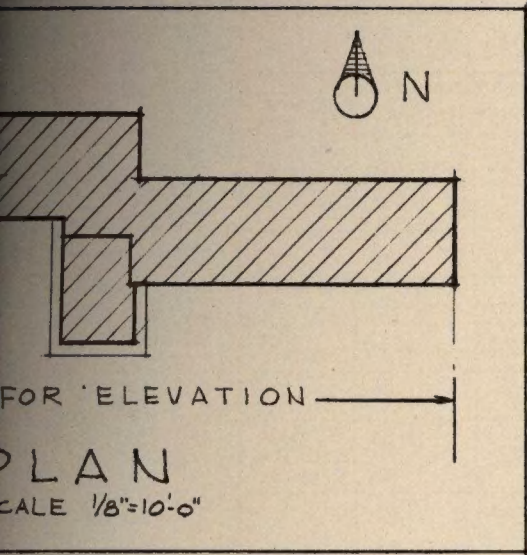
SECTION (E)



SECTION (G)

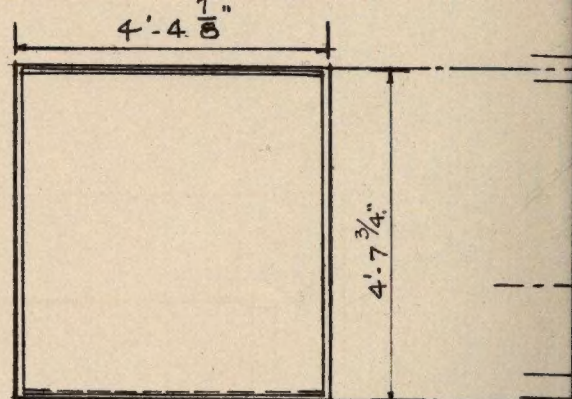
SCALE 3"=1'-0"

HORIZONTAL

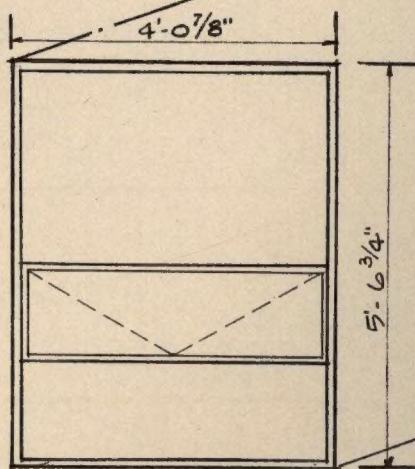


HEAT TRANSMISSION DATA						
WALL MATERIAL	DENSITY LBS. CU. FT.	THICKNESS INCHES	WALL WEIGHT	CONDUCTIVITY OF CONDUCTANCE	RESISTIVITY OF RESISTANCE	HEAT TRANSMISSION COEFFICIENT
INSIDE AIR	—	—	—	a. 1.65	1/a 0.61	
CONCRETE BLOCK	86.0	8.000	58.000	c. 0.60	1/c 1.66	
AIR SPACE	—	—	—	a. 1.10	1/a 0.91	
ALUMINUM EXTERIOR	171.0	0.125	1.781	1416.00	—	
OUTSIDE AIR	—	—	—	① 6.00	0.17	
ACCESSORIES	—	—	2.000	—	—	
			61.781 LBS. SQ. FT.		3.35	0.30 BTU-HR. SQ. FT.-°F.

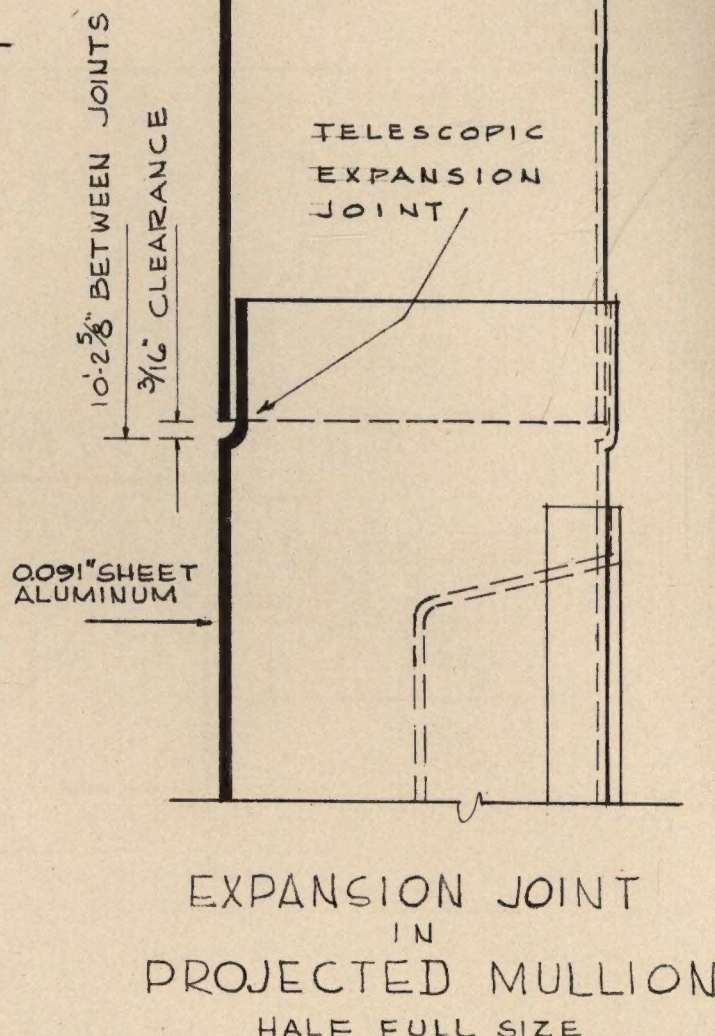
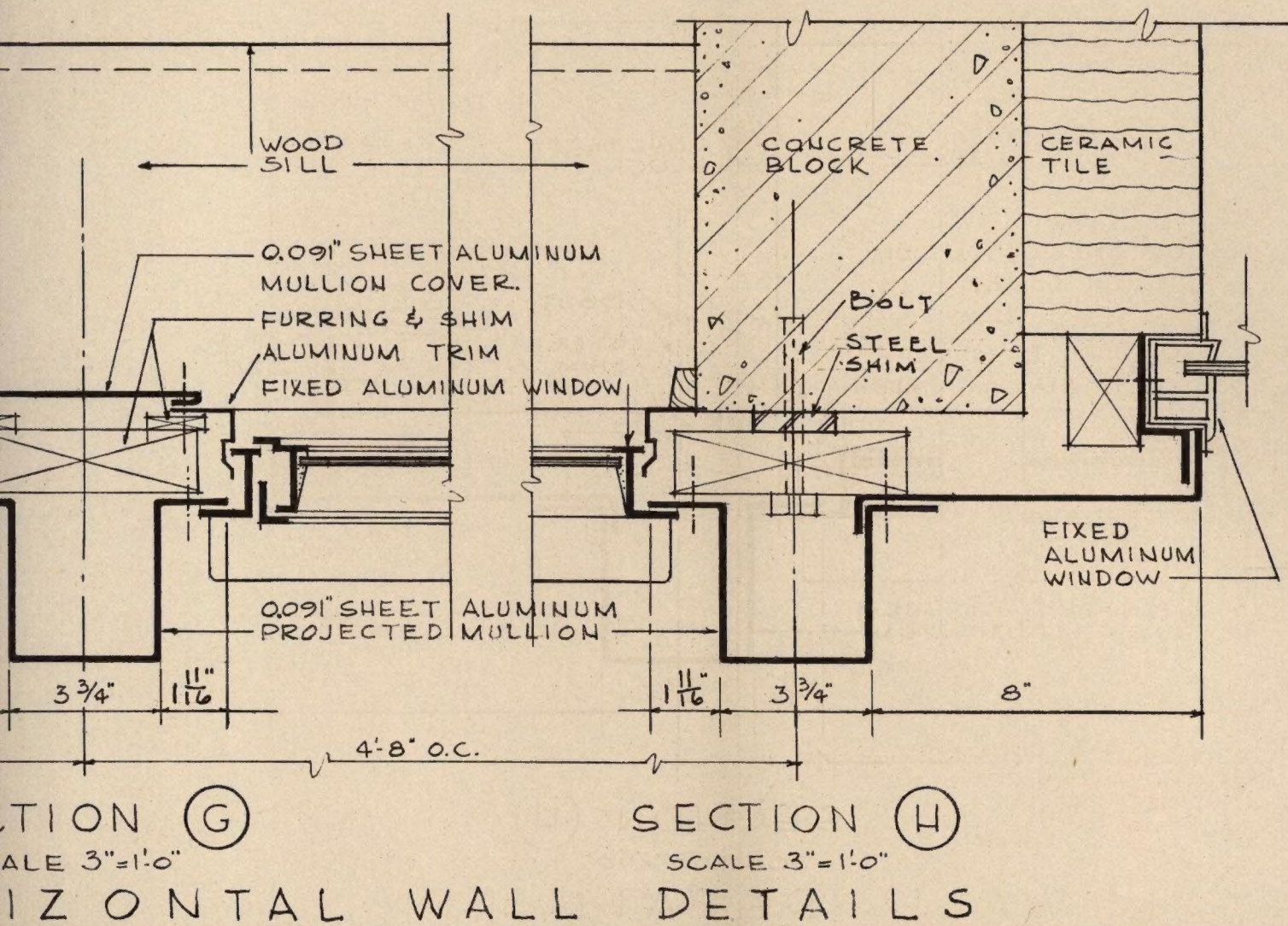
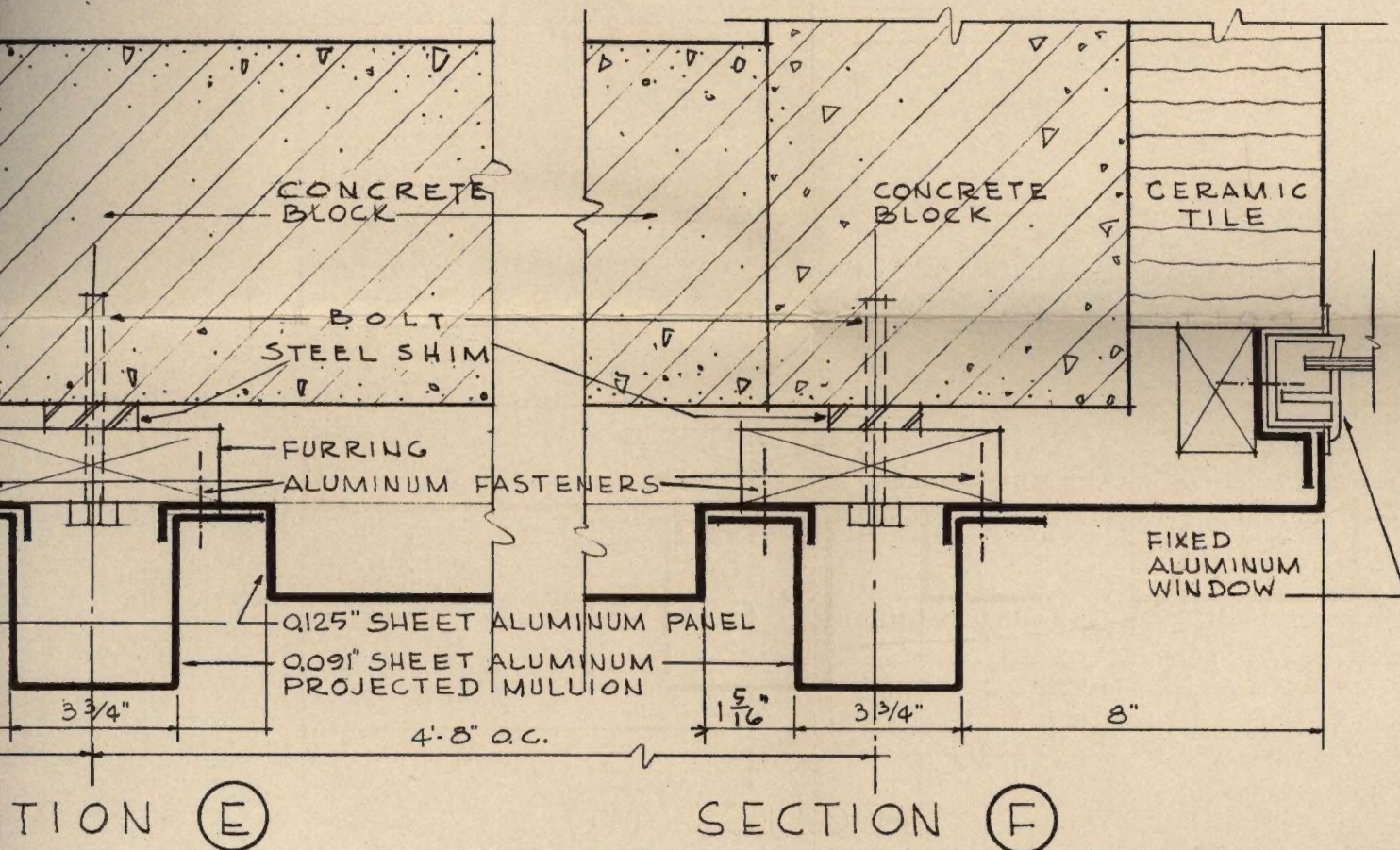
① AT NON-REFLECTIVE ALUMINUM SURFACE OF ALUMILITE FINISH.



TYPICAL SHEET ALUMINUM PANEL

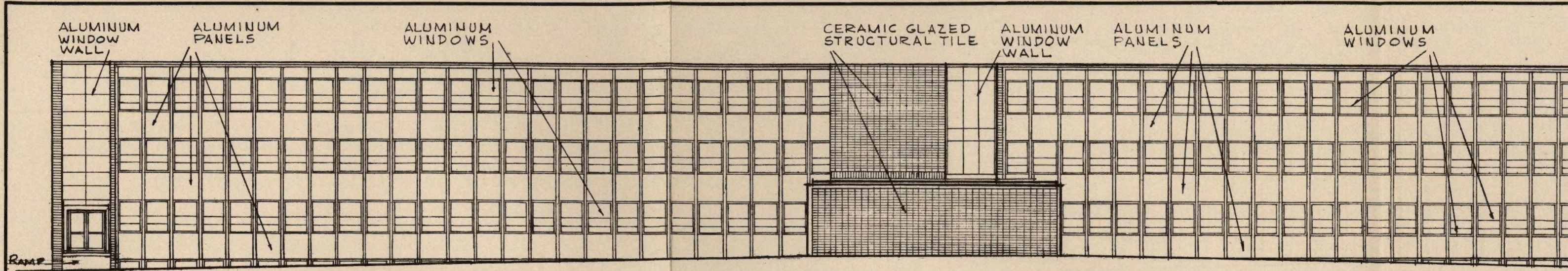


TYPICAL ALUMINUM WINDOW



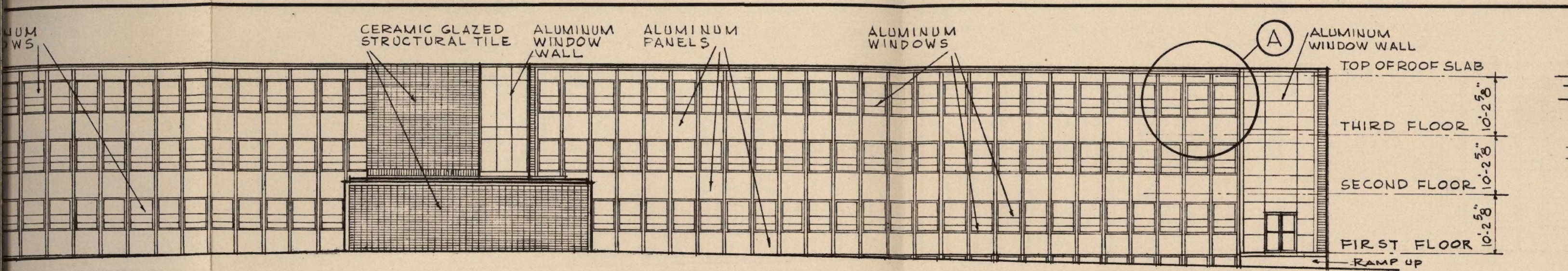
ALUMINUM COMPANY OF AMERICA
PITTSBURGH
PITTSBURGH
HOMESTEAD
GREENSBURG
SPRINGFIELD
PA.
PA.
PA.
PA.
OHIO

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SOUTH ELEVATION

SCALE $\frac{1}{16}'' = 1'-0''$



SOUTH ELEVATION

SCALE $\frac{1}{16}'' = 1'-0''$